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(71) Applicant (for all designated States except US): KFX INC.
[US/US]; Suite 3200, 1991 Broadway, Denver, CO 80202 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): CONOCHIE, David, Stewart [AU/AU]; 27 Sunnyside Avenue, Camberwell, VIC 3124 (AU).

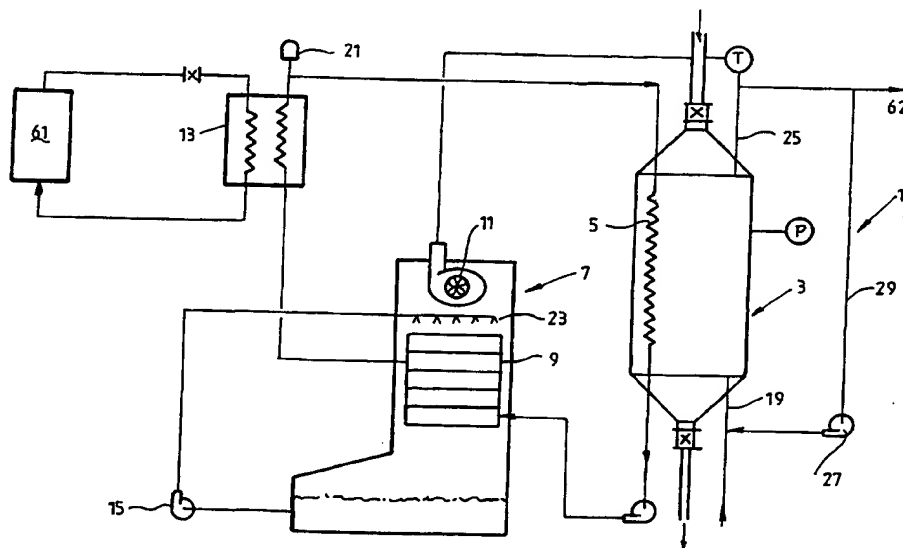
(74) Agent: GRIFFITH HACK; 509 St. Kilda Road, Melbourne, VIC 3004 (AU).

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Published

With international search report.

(54) Title: STABILISING THERMALLY BENEFICIATED CARBONACEOUS MATERIAL



(57) Abstract

A method of stabilising a thermally beneficiated carbonaceous material is disclosed. The method includes the steps of supplying a charge of the carbonaceous material at an elevated temperature to a process vessel to form a packed bed and cooling the carbonaceous material to a target temperature by indirect heat exchange. The method is characterised by supplying an oxygen-containing gas to the packed bed to partially oxidise the carbonaceous material to a required degree to stabilise the carbonaceous material prior to the carbonaceous material reaching the target temperature. The method is also characterised by removing heat from the packed bed that is produced by oxidation of carbonaceous material to control the temperature of the carbonaceous material during oxidation to avoid thermal runaway.

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/ AU98/00484

A. CLASSIFICATION OF SUBJECT MATTERInt Cl⁶: F28D 13/00, 21/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC F28D 13/00, 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
AU:IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DERWENT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 91/17391 A (ABB STAL AB) 14 November 1991	
A	AU 41497/93 (666016) B (METALLGESELLSCHAFT AKTIENGESELLSCHAFT) 6 January 1994	
A	US 4493157 A (GORDON R. WICKER) 15 January 1985	
A	US 4213752 (WALTER H. SEITZER) 22 July 1980	

☐ Further documents are listed in the continuation of Box C

☒ See patent family annex

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>		<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 20 July 1998	Date of mailing of the international search report 24 JUL 1998
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929	Authorized officer <i>R. D. S. Abeygunawardena</i> ASOKA DIAS-ABEYGUNAWARDENA Telephone No.: (02) 6283

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.
PCT/AU98/00484

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	4493157	AU	31788/84	CA	1234973	GB	2145207
		ZA	8406200				
WO	91/17395	CA	2062797	SE	9103694	US	5010827
AU	93/41497	DE	4220952	GB	2268261		
US	4213752	AU	52729/79	DE	2944087		

END OF ANNEX